

NOVEMBER/DECEMBER 2025

FIM62 — SOFTWARE ENGINEERING

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.



1. Define software process.
2. List any two specialized process models.
3. Differentiate functional and non-functional requirements.
4. Define the term Software Requirements Document.
5. State any two design heuristics.
6. What is the significance showing data flow?
7. When should you use re-engineering?
8. What is the necessity of system maintenance?
9. Write notes on earned value analysis planning.
10. Mention two challenges in risk management.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL questions.

11. (a) Explain the waterfall model with a neat diagram.

Or

- (b) Compare spiral model with incremental model.

12. (a) Differentiate user requirements and system requirements with examples.

Or

- (b) Explain the feasibility study process in requirement engineering.

13. (a) Discuss briefly about the design concepts in software engineering.

Or

- (b) Discuss the steps involved in Interface design.

14. (a) Differentiate black-box testing and white-box testing.

Or

- (b) Explain the reengineering process model.

15. (a) Explain LOC and FP-based estimation methods with examples.

Or

- (b) Discuss the process of risk management in software projects.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Critically analyze different software process models and justify which is most suitable for safety-critical systems.

17. Explain the methods followed in feasibility study.

18. Develop a design model for an online food ordering system, including architectural and component-level design.

19. Design a comprehensive test plan for a banking application covering unit, integration, validation, and system testing.

20. Discuss the make/buy decision COCOMO-II model.

